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Automatismos electricos industriales pdf online pdf download full

1. Electrical enclosures and panels 2. Mechanical installation of electrical panels 3. Basic concepts on magnitudes and electrical protections 4. Electric motors 5. Industrial automation with cables 6. Basic schemes and circuits 7. Starting and speed variation in electric motors 8. Advanced representation of schemes 9. Programmable automaton 10. Programming of automatons 11. Safety devices for machines 12. Pneumatics and electro-pneumatics Anexos: A. Safety data sheets B. Normalized symbology C. Location of malfunctions Academia.edu uses cookies to personalize content, tailor ads and improve the user experience. By using our site, you agree to our collection of information through the use of cookies. To learn more, view our Privacy Policy. 23. Introduction to Automatic Control Systems Electrical Conductors ..... 24 24. Types of Electrical Conductors Industrial ..... 24 25. Technical Characteristics of Electrical Conductors ..... 25 26. 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Overvoltage Discharger ..... 56 **Electrical Activities and Devices** Chapter 2 covers various electrical activities and devices, including: 1. **Final Activities**: Pages 20-58 cover final activities, with specific sections on filiation (page 60), measurement devices and equipment (pages 60-61), and voltage, current, and power measurements (pages 60-63). 2. **Electrical Measurement Devices**: * Voltmeter (page 60) * Amperimeter (page 61) * Ohmeter (page 61) * Vatimeter (page 61) * Frequency meter (page 62) * Phase meter (page 62) * Synchronization scope (page 62) * Network analyzers (page 62) * Energy counters (page 63) * Measurement transformers (page 63) 3. **Electrical Panels and Equipment**: * Electrical panels for industrial automation (pages 99-100) * Concept of electrical panel and applicable regulations (page 100) * Protection levels: IP codes (pages 101-105) and IK codes (pages 105-106) **Industrial Drawing and Representation** Chapter 3 covers the fundamentals of industrial drawing and representation, including: 1. **Fundamentals of Industrial Drawing**: Pages 72-75 cover trazos y grosores (lines and thicknesses), procesos y técnicas de croquizado (drawing processes and techniques), escalas y proporciones (scales and proportions), and acotación (limits). 2. **Systems of Representation**: Pages 78-79 cover systems of representation, including 1st-person view, 3rd-person view, exploded views, and cross-sections. 3. **Management of Graphical Documentation**: Pages 80-111 cover the management of graphical documentation, including format, margins, and grid systems. **Electrical Panels and Equipment (continued)** Chapter 4 continues to cover electrical panels and equipment, including: 1. **Concept of Electrical Panel and Applicable Regulations**: Page 100 covers the concept of electrical panel and applicable regulations. 2. **Protection Levels: IP Codes and IK Codes**: Pages 101-106 cover protection levels, including IP codes (pages 102-105) and IK codes (page 106). 3. **Separation of Electrical Panels**: Page 105 covers separation requirements for electrical panels. 4. **Types of Electrical Panels and Equipment**: Page 106 covers the classification of electrical panels and equipment according to their function in the electrical installation, material constructivo (material construction), diseño exterior (exterior design), and condiciones de instalación (installation conditions). Let me know if you'd like me to clarify or expand on any of these points! **Chapter 3: Representación de planos y esquemas** The chapter discusses the representation of plans and diagrams for electrical cabinets. It covers topics such as: * Planos de edificación (building plans) * Esquemas unifilares (single-line diagrams) and multifilares (multi-line diagrams) * Impresión de planos y esquemas * Conservación de la documentación **Chapter 4: Componentes y elementos** This chapter focuses on the components and elements of electrical cabinets, including: * Componentes mecánicos (mechanical components) * Componentes eléctricos (electrical components) for connection * Otros accesorios y componentes (other accessories and components) **Chapter 5: Mecanizado de cuadros** The final chapter discusses the machining of electrical cabinets, including: * Concepto de mecanizado de materiales y cuadros eléctricos (concept of machining materials and electrical cabinets) * Materiales empleados: características y propiedades (materials used: characteristics and properties) * Técnicas de mecanizado de canalizaciones eléctricas para conductores (techniques for machining electrical conduits) Please note that the paraphrased text may not exactly match the original text, but it should convey the main ideas and themes of each chapter. **Chapter 5: Mecanizado de Bandejas Alternativas** The chapter discusses various aspects of mechanized tray making, including properties of materials and techniques for assembly. * **Section 5.2: Propiedades de los Materiales** (Properties of Materials) + Chapter discusses various materials used in the electrical industry, such as copper, aluminum, iron, steel, and others. * **Section 5.6: Técnicas de Montaje y Accesorios SJ** (Assembly Techniques and Accessories SJ) + Discusses techniques for assembling trays and boxes, including those associated with the electrical industry. **Chapter 3: Materiales Asociados a la Industria Eléctrica** (Materials Associated with the Electrical Industry) The chapter discusses various materials used in the electrical industry, including: * **Section 5.3: Cobre, Aluminio, Hierro, Acero, Fundición, Plata, Wolfrarrúo, Estaño, Plomo y Cadmio** (Copper, Aluminum, Iron, Steel, Casting, Silver, Tungsten, Tin, Lead, and Cadmium) + Discusses properties and uses of each material. **Chapter 6: Motores Eléctricos** (Electric Motors) The chapter introduces electric motors, including: * **Section 6.1: Introducción a las Máquinas Eléctricas** (Introduction to Electric Machines) + Discusses the basics of electric machines. * **Section 6.2: Motores Trifásicos** (Three-Phase Motors) + Discusses the classification and composition of three-phase motors, including their connecionado and electrical box. The rest of the text seems to be a continuation of this chapter, discussing various techniques for mechanizing trays, assembly, and accessories related to electric motors. **Chapter 5: Techniques for Working with Materials** * Section 5.5.8: Methods for joining materials (pages 159-160) * Section 5.5.9: Techniques for shaping earth materials (page 160) * Section 5.5.10: Methods for deforming materials (page 160) * Section 5.5.11: Machining and bending tubes (page 161) * Section 5.5.12: Material protection techniques (pages 161-162) * Section 5.5.13: Machining covers for equipment holes (page 162) * Section 5.5.14: Machining and securing frames for automation (page 163) **Chapter 6: Motors and Electrical Installations** * Section 6.3.4: Universal motors (pages 187-188) * Section 6.4: Continuous current motors (pages 188-190) * Section 6.5: Designing electrical installations with motors (pages 191-192) **Chapter 8: Automation and Electrical Protection** * Section 8.1: Protecting electrical motors (pages 236-239) * Section 8.2: Starting electric motors (pages 240-252) Note that I've kept the main headings and section numbers, but paraphrased the section titles to make them more concise and easier to understand. Let me know if you'd like me to make any further changes! Original text: ... 208 ... 8.2.7. Arranque part-winding .. .. 254 . 7.2.3. Instalaciones con varios puestos 8.2.8. Arranque electrónico ..... 254 de mando .... 209 . 8.2.9. Arranque de motores trifásicos en redes monofásicas ..... 258 Translated text: Starting mechanisms for part-winding motors (8.2.7), single-pole starting installations (7.2.3), electronic start-up devices (8.2.8), and three-phase motor starters in single-phase networks (8.2.9) Fundamentos de electrónica digital: * Actividades finales: 230 * Comunicaciones industriales: + Modbus (316) + Profibus (316) + AS-i (317) + Ethernet industrial (318) * Sistemas SCADA (319) * Circuitos eléctricos en autómatas (319) Programación de autómatas: * Lenguajes de programación (321) * Áreas o mapa de memoria (322) * Funciones lógicas: + ANO o "Y" (288) + OR u "O" (289) + X-OR u "OR EXCLUSIVA" (294) + XOR u "NOR EXCLUSIVA" (294) Programación mediante bloques: * Entradas (323) * Salidas (323) * Funciones: + ANO de funciones OR (290) + OR de funciones ANO (291) + NOT o "NEGACIÓN" (292) + NANO (293) + NOR (294) La programación mediante diagrama de contactos: * El temporizador (326) * El contador (326) * Otras funciones (327) 9.4.1 Axiomas del álgebra de Boole y la programación mediante lista se abordan en la sección 9.4, mientras que los teoremas de Morgan son presentados en 9.4.2. En el capítulo 10, se exploran temas como diagramas de Grafcet (10.13) y la obtención del circuito lógico a partir de una tabla de verdad y viceversa (10.13.1-10.13.5). El capítulo concluye con actividades finales en el tema 11, que trata sobre relés programables y automatismos.